

IN THE CLAIMS

Claims 1-17 (Previously Cancelled)

Claims 18-21 (Previously cancelled)

22. (Twice amended) A minimally invasive surgical method for fixing adjacent vertebrae, comprising:

sequentially dilating skin and tissue with a number of dilators, of which an outer dilator provides an access portal to a disc space between the adjacent vertebrae; and

fusing the adjacent vertebrae with material introduced through the sequentially dilated portal.

23. (Previously amended) The method of claim 22, further comprising performing a discectomy through the access portal before fusing the adjacent vertebrae.

24. (Previously presented) The method of claim 22, further comprising securing fixation instrumentation to the adjacent vertebrae.

25. (Previously presented) The method of claim 24, wherein the fixation instrumentation is secured to the pedicles of the adjacent vertebrae.

26. (Previously presented) The method of claim 22, further comprising:

Supplement to First Office Action Response
Ser. No. 09/519,295
Atty Docket No. 4002-2270
Page 2 of 9

sequentially dilating skin and tissue to provide a second access portal to a disc space between the adjacent vertebrae; and

visualizing the disc space through the second access portal.

27. (Previously presented) The method of claim 22, wherein the material includes bone graft material.

28. (Previously presented) The method of claim 27, further comprising:

sequentially dilating skin and tissue to provide a second access portal to a disc space between the adjacent vertebrae; and

visualizing the delivery of bone graft material to the disc space through the access portal with a viewing instrument in the second access portal.

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29. (Previously presented) The method of claim 22, wherein sequentially dilating the skin and tissue includes placing at least three dilator tubes of increasing inner bore diameter one over the other and withdrawing the inner dilator tubes to provide the access portal to the disc space through the last inserted dilator tube.

30. (Previously presented) A minimally invasive surgical system for fusing adjacent vertebrae, comprising:

at least three tissue dilators each including a bore therethrough, said bores being of increasing diameter wherein said at least three tissue dilators are positionable one over the other

to sequentially dilate tissue to provide access through tissue to at least one of the adjacent vertebrae;

at least one bone screw engageable to each of the adjacent vertebrae; and

an elongated fixation element extendable between the adjacent vertebrae when implanted and engagable to each bone screw engaged to the adjacent vertebrae.

31. (Previously presented) The system of claim 30, further comprising a guide wire for guiding placement of the at least three tissue dilators.

32. (Previously presented) The system of claim 30, further comprising bone graft material positionable in a spinal disc space between the adjacent vertebrae.

33. (Previously presented) The system of claim 30, wherin the elongated fixation element is a plate.

34. (Previously presented) A three component dilator system for use in implantation of a bone screw into a vertebra, comprising:

a first tubular dilator having a tapered end, a first length and a first diameter;

a second tubular dilator having a tapered end, a second length and a second diameter;

a third tubular dilator having a tapered end, a third length and a third diameter;

a bone screw, wherein said first diameter is sized to receive said bone screw therethrough; and

Supplement to First Office Action Response
Ser. No. 09/519,295
Atty Docket No. 4002-2270
Page 4 of 9

wherein said first length is shorter than said second length which is shorter than said third length.

35. (Previously presented) The three component dilator system of claim 34, wherein:
said second tubular dilator has a second end opposite said tapered end, said second dilator having a knurled outer surface adjacent said second end; and
said third tubular dilator has a second end opposite said tapered end, said third dilator having a knurled outer surface adjacent said second end.

36. (Previously presented) The system of claim 34, wherein said first diameter is at least 5.5 millimeters.

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37. (Previously presented) A minimally invasive surgical method for fixing adjacent vertebrae, comprising:

sequentially dilating skin and tissue to provide an access portal to a disc space between the adjacent vertebrae; and

fusing the adjacent vertebrae with material introduced through the sequentially dilated portal; and

securing fixation instrumentation to pedicles of the adjacent vertebrae.

38. (Previously presented) The method of claim 37, further comprising performing a discectomy through the access portal before fusing the adjacent vertebrae.

39. (Previously presented) The method of claim 37, further comprising:
sequentially dilating skin and tissue to provide a second access portal to a disc space
between the adjacent vertebrae; and
visualizing the disc space through the second access portal.

40. (Previously presented) The method of claim 37, wherein the material includes bone
graft material.

41. (Previously presented) The method of claim 40, further comprising:
sequentially dilating skin and tissue to provide a second access portal to a disc space
between the adjacent vertebrae; and
visualizing the delivery of bone graft material to the disc space through the access portal
with a viewing instrument in the second access portal.

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42. (Previously presented) The method of claim 37, wherein sequentially dilating the
skin and tissue includes placing at least three dilator tubes of increasing inner bore diameter one
over the other and withdrawing the inner dilator tubes to provide the access portal to the disc
space through the last inserted dilator tube.

43. (New) A minimally invasive surgical system for fusing adjacent vertebrae,
comprising:

Supplement to First Office Action Response

Ser. No. 09/519,295

Atty Docket No. 4002-2270

Page 6 of 9

at least three tissue dilators each including a bore therethrough, said bores being of increasing diameter wherein said at least three tissue dilators are positionable one over the other to sequentially dilate tissue and provide an access portal through tissue to a disc space between adjacent vertebrae; and

bone graft material deliverable through the access portal to the disc space between the adjacent vertebrae.

44. (New) The system of claim 43, further comprising:

at least one bone screw engageable to each of the adjacent vertebrae; and
an elongated fixation element extendable between the adjacent vertebrae when implanted and engageable to each bone screw engaged to the adjacent vertebrae.

45. (New) The system of claim 44, wherein the elongated fixation element is a plate.

46. (New) The system of claim 43, further comprising a guide wire for guiding placement of the at least three tissue dilators.